

20020501.qrp v02_n542.qrl.20020501

Date: Wed, 1 May 2002 19:03:13 EDT
From: qrp-1@Lehigh.EDU
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: QRP-L digest 2542

QRP-L Digest 2542

Topics covered in this issue include:

- 1) [125832] Re: Biasing MOSFETS?
by "Lee Mairs" <lmairs@cox.rr.com>
- 2) [125833] test- please discard
by "Peter Shores" <pshores@socal.rr.com>
- 3) [125834] Inverters?
by ARDUJENSKI@aol.com
- 4) [125835] RE: Inverters for Field Ops
by "Karl Kanalz" <kkanalz@gcecispc.com>
- 5) [125836] Test...Pse do not read
by AA3BP@aol.com
- 6) [125837] RE: Computers in Ham Radio
by "Tracy Markham" <tracy@bytemark.com>
- 7) [125838] Test II - do not read!
by aa3bp@aol.com
- 8) [125839] where is NEQRP?
by Dave <wr3i@earthlink.net>
- 9) [125840] QRP - Vectronics Sale
by Harry Hurst <wa3ptg@comcast.net>
- 10) [125841] Re: Inverters?
by "Mike Yetsko" <myetsko@insydesw.com>
- 11) [125842] Re: Apology / WWII Radio Interception
by "Mike Yetsko" <myetsko@insydesw.com>
- 12) [125843] Re: Test II - do not read!
by "Mike Yetsko" <myetsko@insydesw.com>
- 13) [125844] Re: where is NEQRP?
by "Mike Yetsko" <myetsko@insydesw.com>
- 14) [125845] Re: where is NEQRP?
by "Mike Yetsko" <myetsko@insydesw.com>
- 15) [125846] MFJ 9000 series Transceivers for sale
by Kenneth Broga <w9qs@yahoo.com>
- 16) [125847] Re: Inverters?
by bob evinger <wd9eka@evinger.com>
- 17) [125848] RE: Antenna Impedance (was: RE: Mobile whips)
by "James R. Duffey" <jamesd1@flash.net>
- 18) [125849] Re: Inverters?
by "ZOOM" <kandrparker@sympatico.ca>
- 19) [125850] FS - Yaesu FT-817 QRP Transceiver-all mode, Power Supply and MP-1

antenna ++

- by Jim Larsen - AL7FS <AL7FS@ARRL.NET>
- 20) [125851] Re: Antenna Impedance (was: RE: Mobile whips)
by "George, W5YR" <w5yr@att.net>
- 21) [125852] Re: Biasing MOSFETS?
by "Bob Okas" <vintage2@earthlink.net>
- 22) [125853] Re: Inverters? [and V/UHF]
by Chuck Carpenter <w5usj@9plus.net>
- 23) [125854] Dayton- room
by "Dave Benson" <nn1g@earthlink.net>
- 24) [125855] NoVaQRP gathering
by "William K. Harding" <k4ahk@ix.netcom.com>
- 25) [125856] Re: Biasing MOSFETS?
by "Ham" <KD5NWA@mbayona.com>
- 26) [125857] FS: cabinet
by "Hartwell, Martin E, ALINF" <mehartwell@att.com>
- 27) [125858] Results NEQRP SSB NET
by "Ronald A Pfeiffer" <Ronald_A_Pfeiffer@raytheon.com>
- 28) [125859] RE: Antenna Impedance (was: RE: Mobile whips)
by Bill Coleman <aa4lr@arrl.net>
- 29) [125860] Re: Biasing Mosfets
by David Hinerman <WD8CIV@worldnet.att.net>
- 30) [125861] Re: Biasing Mosfets
by "Jim Kortge, K8IQY" <jokortge@prodigy.net>
- 31) [125862] Re: Biasing MOSFETS?
by Bill Meara <n2cqr@clix.pt>
- 32) [125863] Postal rates...?
by Erkki Suikki <oh1lvr@kotilo.saunalahti.fi>
- 33) [125864] Antenna Question
by "res0okec" <res0okec@verizon.net>
- 34) [125865] Re: Postal rates...?
by Bob Nielsen <nielsen@oz.net>
- 35) [125866] Re: Postal rates...?
by "Karl F. Larsen" <k5di@zianet.com>
- 36) [125867] Biasing MOS-FET
by "Karl F. Larsen" <k5di@zianet.com>
- 37) [125868] A.R.C.I. Activity Report (long)
by David Gauding <david.gauding@bbs.galilei.com>
- 38) [125869] Re: A.R.C.I. Activity Report (long)
by K1VP <k1vp@grizzly.com>
- 39) [125870] Re: A.R.C.I. Activity Report (long)
by W2AGN <w2agn@w2agn.net>
- 40) [125871] Re: Postal rates...?
by kb1dxc <kb1dxc@discovernet.net>
- 41) [125872] YIKES!!! Re: A.R.C.I. Activity Report (long)
by Paul Valko <w8kc@comcast.net>
- 42) [125873] Any list members in Richmond VA area?
by n4djs@netscape.net (David Ritchie)

Date: Tue, 30 Apr 2002 19:05:24 -0400
From: "Lee Mairs" <lmairs@cox.rr.com>
To: <na5n@zianet.com>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [125832] Re: Biasing MOSFETS?
Message-ID: <009a01c1f09b\$8316ef40\$6401a8c0@cox.rr.com>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Paul -
This is truly a great posting to learn from! I printed it out and stuck it
in my QRP Notebook.

I just hope that all the IRF510s in my QRP rigs don't go bad this weekend
like the propagation does whenever you make your other posts!
73 de Lee
km4yy

----- Original Message -----
From: <na5n@zianet.com>
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Sent: Tuesday, April 30, 2002 6:37 PM
Subject: Re: Biasing MOSFETS?

> Bill Meara writes:
> > I'm using a little amplifier from Ramsey. Two MOSFETS in push-pull.
> > Broadband linear RF Amp. I'm using it on 17 meters.
>
> I am not familiar with this specific amplifier, but the principles for
> using MOSFET's is the same.
>
> > Problem is that it is getting very hot. I've increased the size of the
> > heatsink, but it still is getting too hot.
>
> There are two types of MOSFET's: RF mosfet's and switching mosfets. The
> RF mosfets are \$30-40 each, so seldom seen in amateur work. That leaves
> the cheaper switching mosfet's, such as the IRF510. These are designed
> to be a switch ... ON or OFF. In between these two states is a small
> linear region. This is where most QRP PA's are supposedly designed to
> operate. In the case of the IRF510, the mosfet "turns on" with a gate
> voltage around 3.5-4.0v, and goes fully on (called the "full ohmic on
> region") with around 7-8v on the gate. The exact ON and OFF voltages on

> the gate will vary tremendously from one IRF510 to the next. When you
> build an IRF510 PA, you should characterize that particular mosfet so
> you know exactly at what gate voltage drain current starts to flow, and
> if possible, at what gate voltage the drain current becomes maximum, or
> the point of the full-ohmic-on region.
>
> If you spend too much time in the full-ohmic-on region, you are drawing
> excessive current not being transformed to output power, which is
> dissipated across the source-drain junction ... that is, excessive HEATING
> of the IRF510.
>
> > I'm wondering if there would be any benefit to moving the biasing diode
so
> > that it would be in physical contact with the heat sink. This worked
> > wonders in stabilizing a BJT amp, and in keeping it cooler -- I'm
wondering
> > if this would also work with MOSFETS.
>
> Per the above, it is more important to characterize the biasing points of
> your IRF510's. You'll need to monitor BOTH the drain and gate voltages
> simultaneously with either a DVM and/or an oscscope. With no gate voltage,
> the IRF510 will be OFF, such that you will have +12V on the drain (or
> whatever your raw Vcc is).
>
> Connect a 10K or so pot between ground and +12, such that the wiper then
> will go from 0V to +12v. Connect the wiper to the gate. Initially set it
> to 0v and record the drain voltage. Say it is +12v.
>
> Now increase the voltage on the gate until the drain voltage begins to
> drop by the smallest amount you can detect. Usually 100-200mV should be
> obvious on most DVM's or scopes. Say this happens with the gate voltage
> at 3.8v. This is the gate turn-ON voltage: 3.8v
>
> Now increase the gate voltage and watch the drain voltage go down ...
> 10v, 8v, 6v, etc. Be quick at this. You may need to turn the gate
> voltage to 0v if the IRF510 starts getting too hot doing this before doing
> it again. What you are looking for is increasing the gate voltage and
> watching for the point where the drain voltage no longer gets any lower.
> Say this happens with a gate voltage of 7.8v and a drain voltage of 1v.
> If you increase the gate voltage to 8v, the drain voltage stays at 1v.
> You are defining the dynamic range of the LINEAR region. In this case,
> the linear region is a gate voltage from 3.8v to 7.8v ... producing a
> drain voltage that varies from +12v down to +1v. Another way to look at
> it is the mosfet turns ON with a gate voltage of 3.8v (which means it is
> OFF below 3.8v), and the "switch" (the IRF510) is fully ON with a gate
> voltage of 7.8v. This is the gate voltage range you MUST operate within!
> But remember, with the gate voltage at 7.8v, producing a drain voltage of
> 1v, you are now drawing FULL CURRENT, which for the IRF510 is around 5A!

> (Assuming your power supply can provide that).

>

> For accuracy, there is one additional test you need to perform. For a

> typical 5W QRP PA running class C (50% efficiency), a drain current of

> about 1A is usually required. In this case, $12V \times 1A = 12W$ input power,

> yielding an efficiency of $5W/12W = 42\%$ (fairly typical inspite of the

> amazing efficiency claims made by some). How much current does your rig

> draw to make 5W? Figure out the efficiency yourself using the above.

> Subtract the receive current from the transmit current to be a purist.

>

> But this 1A is rms, meaning the IFR510 will be drawing about 1.5A on the

> peaks ($1A \times 1.414$). So you need to find out at what gate voltage produces

> a drain current flow of 1.5A. To do this, you must monitor the drain

> current flow (either in the drain lead, or between the power supply and

> the rig, providing you subtract out the receive or standby current on

> key up).

>

> Let's say you parallel some resistors to achieve 1-ohm in the drain lead.

> This means when you drop 1.5V across this 1-ohm resistor, your drain

> current is about 1.5A.

>

> Now increase your pot/gate voltage again until you see your 1.5V drop

> across the 1-ohm resistor, identifying 1.5A of drain current. Say this

> occurs at 7.4v on the gate. This identifies the true dynamic range you

> need to operate your IRF510 inside of ... a gate voltage from 3.8V

> (turn ON) to 7.4v for 1.5A peak of drain current.

>

> HERE'S THE BIGGEST MISTAKE MOST IRF510 CIRCUITS MAKE:

> =====

>

> You go keydown for transmit, and adjust the bias for 5W output. When you

> go keyup, the IRF510 should TURN OFF. But if the bias is set too high,

> above 3.8v gate turn on in this example, your IRF510 will be drawing

> current, perhaps several hundred mA of current if you don't check. This,

> of course, is wasted power and needlessly heating up your IRF510.

>

> IRF510's are SWITCHING MOSFET'S ... there is absolutely NO NEED to set

> this so-called "idling current" in a mosfet. On keyup, there should be

> NONE, ZERO, ZIP drain current flowing in the IRF510.

>

> If you set your bias for 5W out, and you still have drain current flowing

> on key-up, your problem is simple: INSUFFICIENT GATE DRIVE -- not biasing.

> You do not have enough peak-to-peak RF drive going to the gate. This is

> the biggest problem I've seen with most published IRF510 circuits ...

> insufficient gate drive!

>

> Back to our example, the gate turns ON at 3.8v and the drain draws 1.5A

> at 7.4V. This is 3.6v difference. Your RF drive needs to be AT LEAST

> twice this! (or 7.2Vpp).

>

> MY RECOMMENDATION with the above example, is to bias the gate around

> 0.5v below the gate turn on voltage ... or $3.8 - 0.5v = 3.3V$. With no

> input signal, this will ensure the IRF510 is completely turned off

> (with the gate turn on voltage of 3.8v). The input RF drive signal should

> be capacitively coupled, so that with no RF drive, the gate voltage is

> this 3.3v, and the IRF510 is turned OFF.

>

> For proper class C biasing, your input drive should be twice your gate

> input biasing range, that is, twice the 3.8v (turn ON) to 7.4v ($I_d=1.5A$),

> or about 7.2Vpp RF drive at the driver output, feeding the coupling

> capacitor between the drive and gate input circuit. The first 3.8v will

> do nothing (except help charge up the gate-source capacitance ... about

> 150pF). Then when it exceeds the 3.8v bias, the IRF510 will begin to

> conduct. When the input drive reaches the maximum of 7.2v, this will be

> the MOMENTARY point of maximum 1.5A drain current, corresponding to about

> 1A rms drain current.

>

> So to properly bias an IRF510, you need to know at what gate voltage

> drain current BEGINS to flow, at what gate voltage produces about 1.5A

> of drain current, and at what gate voltage causes FULL current flow.

> In most IRF510's, the difference in gate voltage between 1.5A and full

> drain current is 0.5V or even less. Fairly critical.

>

> The last problem, of course, is if you have too much gate drive, say

> 8-9V peak. This is because (in our example), once the gate voltage

> exceeds the 7.4v (1.5A drain current point), much above that, the

> IRF510 will be drawing it's full 5A of current over some portion of the

> input sinewave, usually 10-25% of the cycle. This excess power does

> two bad things:

> 1) It saturates the toroidal core being used in the drain circuit for

> the RFC or transformer primarily (usually a 1:4 bifilar wound

> transformer). This inductance can not get rid of all of its stored

> up current into the output filter before the next drain current cycle

> begins if it goes into core saturation. A T50-43 core will saturate

> around 2A peak current.

> 2) The excess current has no place to go except to dissipate in the form

> of heat across the drain-source junction. This will make the IRF510

> VERY, VERY HOT in short order. The kind of heat that removes your

> finger print!

>

> In this full-drain current (full-ohmic on) condition, another bad thing

> needs to be pointed out: We know that the approximate output resistance

> of any PA transistor or mosfet is the famous $R_L = V_{cc}^2 / 2P_o$, which equates

> to about 14 ohms at 12V and 5W output. When you enter the full ohmic-on

> region, the output resistance then becomes the R_{ds} of the IRF510, which

> is about 0.4ohms. Drop nearly 12V at 5A across a 0.4 ohm resistor, and

> buddy -- you're making some major heat. ($P=EI = 12V \times 5A = 60Watts!$).
> The maximum power dissipation of an IRF510 is about 40W. Ooops ...
> something has got to give. Poof - there goes your IRF510 after about
> 5 seconds of keydown.
>
> So, for each IRF510 you build a PA out of, characterize the gate voltage
> required for gate turn on, 1.5A of drain current, and where it goes into
> it's full ohmic-on region (full drain current flow). This defines your
> effective dynamic range of RF drive, and the safe operating area you
> should remain within.
>
> If you built an IRF510 from somebody's article that says to set 50mA or so
> of idle current on key-up, immediately drop the gate bias a bit until
> NO DRAIN CURRENT flows. And if you can't get 5W out at this point, then
> increase your RF drive. Or, if it's getting too hot, then check that
> you don't have too much drive, drawing more than 1A rms, or that the
> gate is not exceeding 8V (or whatever you measured) on the peaks.
>
> MOSFET PA's make neat amplifiers, but due to the large variations from
> one device to the next, they are not as reliable to build as a BJT
> PA using a 2SC2078 or something. This is why each IRF510 should be
> characterized before building the PA to establish the proper bias point.
>
> > What do you say? Would this be a cool move or what?
>
> By setting the PROPER BIAS POINT AND RF DRIVE, you shouldn't have to
> piddle around with diode temperature compensation or bias feedback
> networks to make the IRF510 work properly.
>
> It's OK for the IRF510 to get fairly hot after 5-10 seconds of keydown
> with a class C 5W PA, but if you're leaving finger prints ... then it's
> way too hot and it is not properly biased or driven.
>
> 72, Paul NA5N
>

Date: Tue, 30 Apr 2002 16:04:07 -0700
From: "Peter Shores" <pshores@socal.rr.com>
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [125833] test- please discard
Message-ID: <000d01c1f09b\$54cb6ee0\$9e00a8c0@socal.rr.com>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Date: Tue, 30 Apr 2002 19:34:43 EDT
From: ARDUJENSKI@aol.com
To: qrp-l@lehigh.edu
Subject: [125834] Inverters?
Message-ID: <a3.27adda98.2a008413@aol.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit

Are there problems with using power inverters (DC-AC) for field operations?
Noise? Stability?

Alan KB7MBI in Woodinville, WA
FISTS 5702 Proud member of ARRL

Date: Tue, 30 Apr 2002 19:02:35 -0500
From: "Karl Kanalz" <kkanalz@gcecispc.com>
To: <ARDUJENSKI@aol.com>,
"Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: [125835] RE: Inverters for Field Ops
Message-ID: <NFB BKOMEFGJGEBABODPOCEKFCCAA.kkanalz@gcecispc.com>
MIME-Version: 1.0
Content-Type: text/plain;
charset="us-ascii"
Content-Transfer-Encoding: 7bit

Not if you buy the right brand of DC-AC inverter, Alan. But why in the world would you want to have a DC-to-AC inverter? Why not run the whole "field station" from DC and ignore the inefficiency(ies) of the inverter?

Karl K - W8TIF
McKinney, Texas

-----Original Message-----
From: owner-qrp-l@Lehigh.EDU [mailto:owner-qrp-l@Lehigh.EDU] On Behalf Of ARDUJENSKI@aol.com
Sent: Tuesday, April 30, 2002 6:35 PM
To: Low Power Amateur Radio Discussion
Subject: Inverters?

Are there problems with using power inverters (DC-AC) for field operations?
Noise? Stability?

Alan KB7MBI in Woodinville, WA
FISTS 5702 Proud member of ARRL

Date: Tue, 30 Apr 2002 19:58:23 EDT
From: AA3BP@aol.com
To: qrp-l@lehigh.edu
Subject: [125836] Test...Pse do not read
Message-ID: <19c.195c2a3.2a00899f@aol.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit

Date: Tue, 30 Apr 2002 16:58:57 -0700
From: "Tracy Markham" <tracy@bytemark.com>
To: "QRP-L" <qrp-l@lehigh.edu>
Subject: [125837] RE: Computers in Ham Radio
Message-ID: <NFB BKLDHALEHCJMAJPKFEEJHDAAA.tracy@bytemark.com>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="Windows-1252"
Content-Transfer-Encoding: 7bit

I can't keep quiet.

Too many hams are utilizing the computer for all sorts of ham related stuff,
I will confine my comments to actual transmitters and receivers utilizing
the computer either as control or processing.

Katchina? Even if I didn't spell it right, most of you have heard of it.
Think it's a new concept?? Heck no!! an old 386 or 486 motherboard with a
simple controller like an 8255a (ref
<http://www.wenzel.com/pdf/files/24linesc.pdf>) makes a great controller for
any homebrew project. You can get 'em for nothing, and there is lots of
information out there to get into talking to the board.

Use a more modern computer and a good DSP soundcard for the base and you can

build a killer PC based transceiver. I've built one in a 5x86, now I'm going to do another one in a modern PCI computer to take advantage of the DSP filters some guys are writing (ref <http://www.siliconpixels.com/csnd/csnd.htm>)

There are digitally controlled potentiometers (ref <http://www.xicor-forum.com/viewdata.php3?type=D>) to take over where we use variable resistors. Those and the 8255a PPI I mentioned and you can take control of a lot of your analog gear by the computer.

I haven't messed with ADC's and DAC's, but I intend to use an ADC to monitor the AGC voltage on my IF amp for an S meter. Imagine that, an S meter I could calibrate to read out what the exact AGC voltage is.

Then of course there's all the design tools, analytical programs, and other stuff I'm not thinking of right now.

Mark my words - the computer will be used for many things directly in ham radio. As the market improves the capabilities of the motherboards, processors, sound cards, etc., huge amounts of surplus computers will be dumped for no cost. Hams love surplus ... and we'll use them to make radios with.

I've been intrigued by this for years, and have started a few different projects to get a computer controlled radio on the air. I've built two receivers that worked this way, haven't bothered with a transmitter yet but that is on the way. For me, it's cool to learn digital control of analog and digital hardware, writing code in C and VB (I wrote my I/O stuff in a C DLL, to be called from VB because VB can't do port I/O on its own.)

Nah, minimalists have fun, I like mini, but homebrew computer radios is ham radio too. If it's not your cup o' tea, it's ok. Yer grandkids will get into it!!!

I need to shut up and go figure out how to read from the optical shaft encoder ;)
Tracy N4LGH

Date: Tue, 30 Apr 2002 20:01:34 -0400
From: aa3bp@aol.com
To: qrp-l@lehigh.edu
Subject: [125838] Test II - do not read!

Message-ID: <2807B771.020C0B07.00012383@aol.com>
Content-Type: text/plain; charset=iso-8859-1
Content-Transfer-Encoding: 8bit

Date: Tue, 30 Apr 2002 20:11:21 -0400
From: Dave <wr3i@earthlink.net>
To: <qrp-l@lehigh.edu>
Subject: [125839] where is NEQRP?
Message-ID: <E172hi0-00060k-00@falcon.prod.itd.earthlink.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

have Got the wrong night anybody hear NEQRP_SSB?
Dave

Date: Tue, 30 Apr 2002 20:39:17 -0400
From: Harry Hurst <wa3ptg@comcast.net>
To: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [125840] QRP - Vectronics Sale
Message-ID: <HIEKL00DELDPNBOHKICHAEDKCBAA.wa3ptg@comcast.net>
MIME-version: 1.0
Content-type: text/plain; charset=Windows-1252
Content-transfer-encoding: 7BIT

Just took a look over at radioshack.com. Found they have many Vectronics kits marked down to \$18 from \$30. Check the closeouts. Included were 80, 40, 30, 20 meter receivers and transmitters, keyers, and audio filter kits.

Not connected, just looking.

Hap, WA3PTG
Wilmington DE

Date: Tue, 30 Apr 2002 20:53:08 -0400

From: "Mike Yetsko" <myetsko@insydesw.com>
To: <ARDUJENSKI@aol.com>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [125841] Re: Inverters?
Message-ID: <00c001c1f0aa\$915a3800\$0600a8c0@charter.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Efficiency!!!

Mike

----- Original Message -----
From: <ARDUJENSKI@aol.com>

> Are there problems with using power inverters (DC-AC) for field
operations?
> Noise? Stability?
>
> Alan KB7MBI in Woodinville, WA
> FISTS 5702 Proud member of ARRL
>

Date: Tue, 30 Apr 2002 20:52:37 -0400
From: "Mike Yetsko" <myetsko@insydesw.com>
To: <kandrparker@sympatico.ca>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [125842] Re: Apology / WWII Radio Interception
Message-ID: <00bf01c1f0aa\$9127dd60\$0600a8c0@charter.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

American history may be world history, but world history is not
necessarily
American history.

At least, we haven't had the 'globist' who 'know better' that want one big
happy family take full control yet.

And I don't see anything wrong with referring to American actions in a world event being referred to as 'American History'.

Yet...

Mike

----- Original Message -----

From: "ZOOM" <kandrparker@sympatico.ca>

> American History?

> Hmmm! I thought WWII meant World War II.

>

> Gee thanks for the correction!

Date: Tue, 30 Apr 2002 20:53:48 -0400

From: "Mike Yetsko" <myetsko@insydesw.com>

To: <aa3bp@aol.com>,

"Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>

Subject: [125843] Re: Test II - do not read!

Message-ID: <00ce01c1f0aa\$a8eb8b40\$0600a8c0@charter.net>

MIME-Version: 1.0

Content-Type: text/plain;

charset="iso-8859-1"

Content-Transfer-Encoding: 7bit

READ!!!

DO NOT TEST!!!!

Date: Tue, 30 Apr 2002 20:56:37 -0400

From: "Mike Yetsko" <myetsko@insydesw.com>

To: <wr3i@earthlink.net>,

"Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>

Subject: [125844] Re: where is NEQRP?

Message-ID: <00fb01c1f0ab\$156b1e20\$0600a8c0@charter.net>

MIME-Version: 1.0

Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Well, it was usually at 7:30 local (eastern) time. I haven't been able to get on since I have Boy Scouts tuesday night. But tonight they were supposed to have a 'second login' push at 8:30. I rushed home and I hear a conversation just below 7285 that may have caused them to move. Or to blow it off.

Mike
N1DVJ

----- Original Message -----
From: "Dave" <wr3i@earthlink.net>

>
> have Got the wrong night anybody hear NEQRP_SSB?
> Dave

Date: Tue, 30 Apr 2002 21:37:25 -0400
From: "Mike Yetsko" <myetsko@insydesw.com>
To: "Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [125845] Re: where is NEQRP?
Message-ID: <002901c1f0b0\$c06f1420\$0600a8c0@charter.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Just for the benefit of the other NEQRPSSB people...

WR3I and I worked each other. It was terrible, but we did it! After the rest of the NE group wimped out and went to bed!

Time for a celebration OJ then off to bed!

Mike
N1DVJ

Date: Tue, 30 Apr 2002 18:57:28 -0700 (PDT)
From: Kenneth Broga <w9qs@yahoo.com>
To: Low Power Amateur Radio Discussion <qrp-1@lehigh.edu>
Subject: [125846] MFJ 9000 series Transceivers for sale
Message-ID: <20020501015728.28853.qmail@web21209.mail.yahoo.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii

I have three 9000 series transceivers for sale.
All are working and in average shape (a few nicks and scratches) and all have the "detented" RIT pot.

9040 with 726 filter and 412 keyer. \$125.00
Includes manual.

9030 with 726 filter. \$100.00
No manual.

9020 with 726 filter and 412 keyer. \$125.00
Includes manual.

I have pictures of all three. Please contact me and I will be glad to send them.

Please reply direct. Payment by Money Order. I can take them to Dayton for delivery if wanted.

Regards,

Mike Broga, W9QS

Do You Yahoo!?
Yahoo! Health - your guide to health and wellness
<http://health.yahoo.com>

Date: Tue, 30 Apr 2002 22:09:53 -0500
From: bob evinger <wd9eka@evinger.com>
To: myetsko@insydesw.com
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [125847] Re: Inverters?
Message-ID: <3CCF5C81.3060400@evinger.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii; format=flowed
Content-Transfer-Encoding: 7bit

It depends on the inverter and what you are willing to sacrifice. There are a number of reasonably efficient inverters out there, low 90% efficiency range. BUT, a lot of the cheap ones also are the RF noisiest ones. If it can be ran on 12 volts just do that, if you are needing to run a pc, consider a laptop. A large chunk of them will run off of 12 volts without conversion.

I run my shack and portions of my house off of solar/wind. I have a trace dr2412 inverter. It doesn't start producing objectional noise until I start demanding somewhere above 1.5kw out of it(somewhere over 100amps at 12 volts). When I start pulling max power out of it 2.4kw(surging to 6kw) then I start getting considerable noise on the HF bands. Fortunately, I don't typically pull that much power from it when I am operating though. The DR2412 is not a portable inverter though. Its industrial grade, big and heavy and also has an efficiency in the low 90% range at some power level(dont remember it off the top of my head though).

Mike Yetzko wrote:

> Efficiency!!!

>

> Mike

>

>

> ----- Original Message -----

> From: <ARDUJENSKI@aol.com>

>

>

>>Are there problems with using power inverters (DC-AC) for field

>>

> operations?

>

>>Noise? Stability?

>>

>>Alan KB7MBI in Woodinville, WA

>>FISTS 5702 Proud member of ARRL

>>

>>

>

>

>

--

Bob Evinger WD9EKA/AAR5MG(Army MARS operator)

If Guns Cause Crime, Then Matches Cause Arson.

Date: Tue, 30 Apr 2002 21:20:03 -0600
From: "James R. Duffey" <jamesd1@flash.net>
To: <n5nw@n5nw.org>, qrp-l <qrp-l@lehigh.edu>
Subject: [125848] RE: Antenna Impedance (was: RE: Mobile whips)
Message-ID: <B8F4BB02.14841%jamesd1@flash.net>
Mime-version: 1.0
Content-type: text/plain; charset="US-ASCII"
Content-transfer-encoding: 7bit

Marty - Don't let the criticism get you down. We appreciate all input. The comments we make are to clarify things, not to denigrate the original poster. Keep typing. - Dr. Megacycle KK6MC/5

--
James R. Duffey KK6MC/5
Cedar Crest, NM DM65

Date: Tue, 30 Apr 2002 23:22:08 -0400
From: "ZOOM" <kandrparker@sympatico.ca>
To: <wd9eka@evinger.com>,
"Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: [125849] Re: Inverters?
Message-ID: <011301c1f0bf\$600effa0\$c791fea9@valveman>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

I think the quality of an inverter depends on whether it uses a square wave or a sinewave transformation. As you know a squarewave is the worst case since it is full of unwanted harmonics. I read a paper some years ago that some of the more expensive inverters used a crystal reference to stabilize and produce a clean sinewave. Inverters have however come down considerably in price and some of the 300W inverters used for laptops and other electronic devices are very clean.

Regards,
Robert
VE3RPF

----- Original Message -----

From: "bob evinger" <wd9eka@evinger.com>
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Sent: Tuesday, April 30, 2002 11:09 PM
Subject: Re: Inverters?

> It depends on the inverter and what you are willing to sacrifice. There
> are a number of reasonably effecient inverters out there, low 90%
> effeciency range. BUT, a lot of the cheap ones also are the RF noisiest
> ones. If it can be ran on 12 volts just do that, if you are needing to
> run a pc, consider a laptop. A large chunk of them will run off of 12
> volts without conversion.

>
> I run my shack and portions of my house off of solar/wind. I have a
> trace dr2412 inverter. It doesnt start producing objectional noise until
> I start demanding somewhere above 1.5kw out of it(somewhere over 100amps
> at 12 volts). When I start pulling max power out of it 2.4kw(surging to
> 6kw) then I start getting considerable noise on the HF bands.
> Fortunately, I dont typically pull that much power from it when I am
> operating though. The DR2412 is not a portable inverter though. Its
> industrial grade, big and heavy and also has an efficiency in the low
> 90% range at some power level(dont remember it off the top of my head
> though).

>
>
> Mike Yetsko wrote:

> > Efficiency!!!

> >
> > Mike

> >
> >
> > ----- Original Message -----

> > From: <ARDUJENSKI@aol.com>

> >
> >
> >>Are there problems with using power inverters (DC-AC) for field
> >>
> > operations?

> >
> >>Noise? Stability?

> >>
> >>Alan KB7MBI in Woodinville, WA
> >>FISTS 5702 Proud member of ARRL

> >>

> >>

> >

> >

> >
>
>
> --
> Bob Evinger WD9EKA/AAR5MG(Army MARS operator)
> If Guns Cause Crime, Then Matches Cause Arson.
>

Date: Tue, 30 Apr 2002 20:53:44 -0800
From: Jim Larsen - AL7FS <AL7FS@ARRL.NET>
To: "qrp-1@lehigh.edu" <qrp-1@lehigh.edu>
Subject: [125850] FS - Yaesu FT-817 QRP Transceiver-all mode, Power Supply and MP-1

antenna ++
Message-ID: <3CCF74D8.8C518BB5@ARRL.NET>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Greetings from Alaska,

I am posting this for an Anchorage area ham who has learned that she needs just a bit more power for operating from Alaska and from a mobile. I tend to agree in this case even though I am a die-hard QRP'er. This sale will help her to buy a new 100 watt Kenwood or Icom rig. Perhaps I can still talk her into turning her power down to less than 5 watts from time-to-time and visiting us up on xx.060 MHz. :-)

For sale: Yaesu FT-817 (\$620 New-today's prices), Power Supply Yaesu NC72B (\$15 new) and the Super Antenna MP-1 antenna by W6MMA (\$150 new) + Tripod (\$25 new) and Bracket (\$20 new) to mount the antenna on the rig. No CW filter. That's \$812.00 total. The rig and antenna system were bought new in September 2001 (seven months ago) at our Anchorage ARRL convention.

Price is \$675 for everything plus the buyer pays shipping, insurance and delivery confirmation via USPS Priority Mail.

This rig and antenna system have almost never been used. Quote, "she has used this system twice..."

I am sure it could be considered "as new". I talked her out of selling it in mid December and I am fairly sure it has not been used much, if at all, since then.

Contact me directly and I will put you in touch with the seller in the

order I hear from you.

73, Jim

--

Jim Larsen, AL7FS, Anchorage, Alaska
(BP51cc) - 61.101 North, 149.824 West
mailto:al7fs@arrl.net - <http://www.qsl.net/al7fs/>

Date: Wed, 01 May 2002 00:09:58 -0500
From: "George, W5YR" <w5yr@att.net>
To: jamesd1@flash.net
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [125851] Re: Antenna Impedance (was: RE: Mobile whips)
Message-ID: <3CCF78A6.456177CB@att.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Marty, let me echo Jim's comments in capital letters.

This is a *discussion* group intended for calm, mature examination of various issues. Our, or at least, my interest is in the topic and content, not in the personality or even the identity of the poster, other than having some calibration as to the reliability of the information, etc.

Remember the old "I'm OK - You're OK" stuff from the 80's? That is what is working here. I may not agree with what you say or even how you say it, but any responding comments are directed at what you say, not to you personally.

You did awaken my curiosity though in mentioning Nash Equilibrium as, I suppose, an analytical approach toward maximizing both efficiency and bandwidth of antennas. Usually, this is a trade-off game of giving up some of one for the other, so I would be very interested in learning more about this.

73/72/oo, George W5YR - the Yellow Rose of Texas
Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 56th year and it just keeps getting better!
QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404 TEN-X 11771 I-LINK 11735
Icom IC-756PRO #02121 Kachina 505 DSP #91900556 Icom IC-765 #02437

"James R. Duffey" wrote:

>

> Marty - Don't let the criticism get you down. We appreciate all input. The
> comments we make are to clarify things, not to denigrate the original poster.
> Keep typing. - Dr. Megacycle KK6MC/5
> --
> James R. Duffey KK6MC/5
> Cedar Crest, NM DM65

--
73/72/00, George W5YR - the Yellow Rose of Texas
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QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404 TEN-X 11771 I-LINK 11735
Icom IC-756PRO #02121 Kachina 505 DSP #91900556 Icom IC-765 #02437

Date: Wed, 1 May 2002 00:55:29 -0700
From: "Bob Okas" <vintage2@earthlink.net>
To: <na5n@zianet.com>, <n2cqr@clix.pt>, <qrp-l@lehigh.edu>
Subject: [125852] Re: Biasing MOSFETS?
Message-ID: <FHEJJJPJADNLFNJB0FAAE0ACAAA.vintage2@earthlink.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hi Paul,

Kudos for such a lucid description of Class C mosfet biasing. I've squirreled it away in my na5n folder. However, I do wish to point out that the original poster was describing a mosfet push pull *linear* amp. Remembering Bill Meara's proclivity for SSB operation on 17m, I suspect he's looking to boost his phone signal. If, say, the Ramsey amp was designed for operation in the Class AB-ish region, then some current would be drawn by the finals during those moments of non-speech keydown.

I've read W1HUE's article, <http://www.qrparci.org/east/Q_MODS5.html>, which dispells the notion I've held that Mosfets have an absolute negative temperature coefficient that reduces the device gain as the junction temperature increases. So, thermally attaching the biasing diode to the heatsink should help, provided that the bias is not initially too high. I wonder if Bill could tell us what the gate bias voltage is and the part number of those devices? Is there a bias adjustment?

73,
Bob - W3CD

Date: Wed, 01 May 2002 05:52:13 -0500
From: Chuck Carpenter <w5usj@9plus.net>
To: ARDUJENSKI@aol.com,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [125853] Re: Inverters? [and V/UHF]
Message-ID: <3.0.2.32.20020501055213.00837390@mail.9plus.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

I have a 140 W Tripp-Lite I use for field (day) operation. But it's only used for the V/UHF antenna rotators. Everything else in the QRP station runs from batteries.

Chuck Carpenter, W5USJ, Point, Rains Co., TX - EM22cv, NETXQRP #1
QRP-ARCI #5422, QRP-L #1306, SOC #57, 6 Club #201, SMIRK #6275
Zombie #759, QRPp-I #115, COG #11, NETXQRP <http://www.netxqrp.org>

Date: Wed, 1 May 2002 08:45:01 -0700
From: "Dave Benson" <nn1g@earthlink.net>
To: <qrp-l@lehigh.edu>
Subject: [125854] Dayton- room
Message-ID: <005301c1f127\$291bf080\$974e3b41@pavilion>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Anyone need a room at Dayton?- I have a double, so have space for a roommate.

73- Dave

Dave Benson, K1SWL
<http://smallwonderlabs.com>

Date: Wed, 01 May 2002 09:38:03 -0400

From: "William K. Harding" <k4ahk@ix.netcom.com>
To: "QRP-L Mail" <qrp-l@lehigh.edu>
Subject: [125855] NoVaQRP gathering
Message-ID: <E172uJ5-0005Qg-00@granger.mail.mindspring.net>
Mime-version: 1.0
Content-type: text/plain; charset="US-ASCII"
Content-transfer-encoding: 7bit

Of interest to Northern Virginia and Maryland hams:

Saturday, May 11, is the next gathering of the Northern Virginia QRP Group. Come to Mama's restaurant at Fairfax circle sometime after 11:30 am for pizza, tall tales and toys. We usually break up around 1:30 or 2:00 pm. Wear your call sign badge if you have one and bring a QSL card for the member log if you haven't already.

The last few gatherings have had 25 or so attendees. This one is the time to discuss our June Field Day plans. We will be using the same place at Reston in Lake Fairfax Park.

If you need directions to Mama's restaurant, drop me an e-mail reply. Hope we see you there. Bring your favorite toys for show and tell.

Bill Harding - K4AHK
Northern Virginia - FM18

k4ahk@ix.netcom.com

Date: Wed, 1 May 2002 08:54:45 -0500
From: "Ham" <KD5NWA@mbayona.com>
To: <qrp-l@Lehigh.EDU>, <na5n@zianet.com>
Subject: [125856] Re: Biasing MOSFETS?
Message-ID: <004601c1f117\$c0ea0ab0\$373d010a@a000>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

As a new ham I appreciate articles of this kind, where we get a chance to learn from more experienced hams, we need more articles like his on the reflector instead of the personal egos ranting off.

Thanks

Cecil

KD5NWA

----- Original Message -----

From: <na5n@zianet.com>

To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>

Sent: Tuesday, April 30, 2002 5:37 PM

Subject: Re: Biasing MOSFETS?

> Bill Meara writes:

> > I'm using a little amplifier from Ramsey. Two MOSFETS in push-pull.

> > Broadband linear RF Amp. I'm using it on 17 meters.

>

> I am not familiar with this specific amplifier, but the principles for

> using MOSFET's is the same.

>

> > Problem is that it is getting very hot. I've increased the size of the

> > heatsink, but it still is getting too hot.

>

> There are two types of MOSFET's: RF mosfet's and switching mosfets. The

> RF mosfets are \$30-40 each, so seldom seen in amateur work. That leaves

> the cheaper switching mosfet's, such as the IRF510. These are designed

> to be a switch ... ON or OFF. In between these two states is a small

> linear region. This is where most QRP PA's are supposedly designed to

> operate. In the case of the IRF510, the mosfet "turns on" with a gate

> voltage around 3.5-4.0v, and goes fully on (called the "full ohmic on

> region") with around 7-8v on the gate. The exact ON and OFF voltages on

> the gate will vary tremendously from one IRF510 to the next. When you

> build an IRF510 PA, you should characterize that particular mosfet so

> you know exactly at what gate voltage drain current starts to flow, and

> if possible, at what gate voltage the drain current becomes maximum, or

> the point of the full-ohmic-on region.

> 72, Paul NA5N

>

Date: Wed, 1 May 2002 10:09:37 -0400

From: "Hartwell, Martin E, ALINF" <mehartwell@att.com>

To: <qrp-1@lehigh.edu>

Subject: [125857] FS: cabinet

Message-ID: <6579C6377F475547985F0B3E426E1626140532@0CCLUST01EVS1.ugd.att.com>

content-class: urn:content-classes:message

MIME-Version: 1.0

Content-Type: text/plain;

charset="Windows-1252"

Content-Transfer-Encoding: quoted-printable

Hi

I have a smallish cabinet or enclosure that is excess to my needs. It is =
about the size of
a qrp+ with out a front panel, and has a flip top for access. It is =
krinkel black finish.

I had thought of using to to build a qrp companion, but I have since =
sold the qrp+.=20

I would sell this for \$12.00 which includes the \$4.00 dollars to ship it =
Priority mail
with in the lower 48, it doesn't weigh much.

If anyone is interested send me email, as a car dealer says around here =
"we're dealing".

Marty Hartwell kd8bj
AT&T Columbus Ohio
PH:614-501-2503

Date: Wed, 1 May 2002 10:15:51 -0400
From: "Ronald A Pfeiffer" <Ronald_A_Pfeiffer@raytheon.com>
To: neqrp@jonal.net, qrp-1@Lehigh.EDU
Subject: [125858] Results NEQRP SSB NET
Message-ID: <0F194D7E29.4CE67CB1-0N85256BA5.004A13E0@and.us.ray.com>
MIME-Version: 1.0
Content-type: text/plain; charset=us-ascii

Well I fixed a problem with my coax connector and I hear a lot
better and people can hear me better!

07:30PM EDST 5 checkins:

K1SWL	Dave	CT	FT817
WA10HR	Ev	CT	IC756
N1XTK	Keith	CT	
N1BE	Bob	MA	FT757
N4TVC	Randy	VA	K2

Thank you all for checking in and hope to hear you next week.

08:30PM EDST

AB8DF ED MI

Also received email from WR3I and N1DVT who couldn't find us but still had a QSO with each other.

Again thank all that checked in, it is fun to see what 5 or 10 watts can do on SSB.

See you next week, Ron N1ZSW

Date: Wed, 1 May 2002 10:30:28 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <jamesd1@flash.net>,
"Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [125859] RE: Antenna Impedance (was: RE: Mobile whips)
Message-ID: <1020401103002.KAA02970@gate.iterated.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 4/30/02 11:20 PM, James R. Duffey at jamesd1@flash.net wrote:

>Don't let the criticism get you down. We appreciate all input. The
>comments we make are to clarify things, not to denigrate the original poster.

What criticism? Corrections and clarifications aren't criticism. It's how we all figure this stuff out....

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Wed, 01 May 2002 13:38:51 -0400
From: David Hinerman <WD8CIV@worldnet.att.net>
To: qrp-1@lehigh.edu
Subject: [125860] Re: Biasing Mosfets
Message-ID: <5.1.0.14.1.20020501133725.00a69840@ipostoffice.worldnet.att.net>
Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"; format=flowed

Folks,

Seeing the discussion on MOSFETs has got me thinking (always a dangerous activity) - what is the practical upper frequency limit of an IRF510 (or two) used as a final?

Dave

"You can fool some of the people all of the time. That's enough to make a living." - Lance Burton

Dave Hinerman
WD8CIV@worldnet.att.net

Date: Wed, 01 May 2002 14:25:04 -0400
From: "Jim Kortge, K8IQY" <jokortge@prodigy.net>
To: WD8CIV@worldnet.att.net
Cc: qrp-l@lehigh.edu
Subject: [125861] Re: Biasing Mosfets
Message-ID: <5.1.0.14.1.20020501142148.00a66ec0@pop.prodigy.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

At 01:38 PM 5/1/02 -0400, you wrote:

>Folks,
>
>Seeing the discussion on MOSFETs has got me thinking (always a dangerous
>activity) - what is the practical upper frequency limit of an IRF510 (or
>two) used as a final?
>
>Dave

Dave,

Using properly designed feedback networks, they will easily go up to 17 meters. I use a pair of MTP3055E MOSFETs in a small linear amplifier that I designed and built for 40 and 17. I get about 12 watts out on 40 and about 10 on 17. The feedback circuits were optimized for 17 meter operation. I believe the QRP Plus rig used an IRF510 in the final up to 6 or 10 meters, but I suspect the power output suffers terribly up that high.

72,

Jim, K8IQY

Date: Wed, 01 May 2002 19:11:49 -0100
From: Bill Meara <n2cqr@clix.pt>
To: vintage2@earthlink.net
Cc: qrp-l@lehigh.edu
Subject: [125862] Re: Biasing MOSFETS?
Message-ID: <1.5.4.32.20020501201149.006c5588@pop.clix.pt>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

At 12:55 AM 5/1/02 -0700, you wrote:

>Hi Paul,

>

> Kudos for such a lucid description of Class C mosfet biasing. I've
>squirreled it away in my na5n folder. However, I do wish to point out that
>the original poster was describing a mosfet push pull *linear* amp.
>Remembering Bill Meara's proclivity for SSB operation on 17m, I suspect he's
>looking to boost his phone signal. If, say, the Ramsey amp was designed for
>operation in the Class AB-ish region, then some current would be drawn by
>the finals during those moments of non-speech keydown.

>

> I've read W1HUE's article, <http://www.qrparci.org/east/Q_MODS5.html>,
>which dispells the notion I've held that Mosfets have an absolute negative
>temperature coefficient that reduces the device gain as the junction
>temperature increases. So, thermally attaching the biasing diode to the
>heatsink should help, provided that the bias is not initially too high. I
>wonder if Bill could tell us what the gate bias voltage is and the part
>number of those devices? Is there a bias adjustment?

Bob: The devices in the Ramsey Amp are MTP3055E. I'm guessing that they
are switching MOSFETS similar to those described in Paul's excellent post.

Yea, biasing is more complicated once you leave Class C. The Ramsey manual
advises you to monitor the current and adjust bias (no signal in) for 250
milliamps. They have a test point in the bias circuit, and with 250 ma,
they say that point should read 3.2 to 3.5 volts. I found that the voltage
reading I got was a bit higher -- about 4.4 volts. This confirms what Paul
said about variations in bias points.

I notice that as the amp gets warm, the idle current starts going up. Mine

goes to about 340 milliamps after a standard length CQ. I now have a larger heat sink and a big old fan (tube type!) on the amp, so it is under control, but I'd be happier if the idle current stayed put.

I'm wondering how low I can go with the idle current before I start getting non-linear. Lower idle current would obviously keep things cooler.

I also saw the temp stabilization article you cited. Looked kind of complicated to me. I wonder if just putting the diode on the heat sink would work just as well. I may give this a try.

The amp is working well. Takes me from about 1 watt PEP to about 15-18 watts PEP. "Stand by while I kick in the lin-yr OM!" Lots of fun.

73 Bill CU2JL N2CQR

Date: Wed, 1 May 2002 22:41:12 +0300 (EEST)
From: Erkki Suikki <oh1lvr@kotilo.saunalahti.fi>
To: qrp-l@Lehigh.EDU
Subject: [125863] Postal rates...?
Message-ID: <20020501194112.842261AB4@velli.mail.jippii.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Hello, gang...! - Here I am preparing QSL-SASEs as I worketh some DX last weekend... as everybody or nobody knows, I am collecting stamps also. So I have some unused U.S. stamps also, and would put them into the S(tamped) E(nvelope), that one where is my name. Also I add a greenback for other costs... Now question is: how much is the fare from U.S.A to Finland nowadays...?
73 and 72 de Erkki OH1UP

Date: Wed, 1 May 2002 16:19:33 -0400
From: "res0okec" <res0okec@verizon.net>
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: [125864] Antenna Question
Message-ID: <004101c1f14d\$823b8880\$4e883f04@vz.dsl.genuity.net>
MIME-Version: 1.0
Content-Type: text/plain;

charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hello All,

I was wondering if anyone on the list
has ever used one of the Spi-Ro Manufacturing
trap dipoles. Any help would be appreciated.
Thank You,

Charlie

Date: Wed, 1 May 2002 13:27:34 -0700
From: Bob Nielsen <nielsen@oz.net>
To: Low Power Amateur Radio Discussion <qrp-1@lehigh.edu>
Subject: [125865] Re: Postal rates...?
Message-ID: <20020501202734.GA13644@oz.net>
Mime-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Disposition: inline

On Wed, May 01, 2002 at 10:41:12PM +0300, Erkki Suikki wrote:

> Hello, gang...! - Here I am preparing QSL-SASEs
> as I worketh some DX last weekend... as everybody
> or nobody knows, I am collecting stamps also. So
> I have some unused U.S. stamps also, and would
> put them into the S(tamped) E(nvelope), that one
> where is my name. Also
> I add a greenback for other costs... Now
> question is: how much is the fare from U.S.A
> to Finland nowadays...?
> 73 and 72 de Erkki OH1UP

It's still \$0.80/ounce (28.35 g). The domestic rate is going from 0.34
to 0.37 in June, but there has been no word on changes to the
international rate.

Bob, N7XY

Date: Wed, 1 May 2002 14:37:48 -0600 (MDT)
From: "Karl F. Larsen" <k5di@zianet.com>
To: Erkki Suikki <oh1lvr@kotilo.saunalahti.fi>
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [125866] Re: Postal rates...?
Message-ID: <Pine.LNX.4.44.0205011435281.3019-1000000@Daisy.dog>

MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Hi Erkki, last time I sent a letter to Croatia it cost \$0.80 per ounce for First Class (by Airplane delivery). It's lots cheaper by boat but it takes weeks to make it.

On Wed, 1 May 2002, Erkki Suikki wrote:

> Hello, gang...! - Here I am preparing QSL-SASEs
> as I worketh some DX last weekend... as everybody
> or nobody knows, I am collecting stamps also. So
> I have some unused U.S. stamps also, and would
> put them into the S(tamped) E(nvelope), that one
> where is my name. Also
> I add a greenback for other costs... Now
> question is: how much is the fare from U.S.A
> to Finland nowadays...?
> 73 and 72 de Erkki OH1UP
>
>

--
Yours Truly,

- Karl F. Larsen, k5di@arrl.net (505) 524-3303 -
<http://www.zianet.com/k5di/>

Date: Wed, 1 May 2002 14:57:46 -0600 (MDT)
From: "Karl F. Larsen" <k5di@zianet.com>
To: qrp-l@lehigh.edu
Subject: [125867] Biasing MOS-FET
Message-ID: <Pine.LNX.4.44.0205011440180.3019-1000000@Daisy.dog>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

To my way of thinking the bias point is defined by whether the amplifier is linear or not. By linear I mean if the input is 10% 50% or 100% of maximum output the output follows that with good accuracy.

For CW where the signal is on or off, you should bias the devices for no drain current in the off condition, and drive the devices hard enough to saturate drain current when on. This will result in the highest

efficeincy and of course, least power to heating. Your for sure going to need a good filter on the output. If your using push-pull your filter job is easier because even harmonics are very low.

Now you start to bias the devices into conduction when you need a linear amp. This increases loss to heat and the devices get hot. 500 Ma at 12 volts is 6 watts of constant heat dissipation in the device. If you think you need 2 amps of drain bias then the linearity is great but the amp gets real hot.

If I were doing this I would try Class B operation. Here there is just a tiny drain current when no signal is present. I would be careful not to overdrive the amp and flat top. This is very possible to set up.

--

Yours Truly,

- Karl F. Larsen, k5di@arrl.net (505) 524-3303 -
<http://www.zianet.com/k5di/>

Date: Wed, 01 May 2002 16:06:18 -0500
From: David Gauding <david.gauding@bbs.galilei.com>
To: qrp-l@lehigh.edu
Subject: [125868] A.R.C.I. Activity Report (long)
Message-ID: <5.1.0.14.0.20020501112723.025406f0@bbs.galilei.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

Good afternoon,

On April 16, I received an e-mail from KK5NA, the new president of ARCI. Joe Spencer explained that while investigating relationships with other QRP clubs and individuals, he discovered a two-part article in the QRP Quarterly that should not have been printed.

KK5NA did not mention the article by name but hinted that he was sure I knew the one he meant.

Joe apologized on behalf of ARCI for having published the installments in QQ while stating that in his opinion, and the opinion of others, the material should not have been released. Further, I could rest assured nothing like this would happen during his term.

I e-mailed back saying that yes, I knew exactly the article to which he was referring. And, so did the St. Louis QRP Society since the three antenna

projects critiqued in it were designed, tested and documented by our members. Each article had been released in the Peanut Whistle newsletter. They were later submitted to NorCal for consideration and re-printed in QRPp.

SLQS considers the QRP Quarterly article irresponsible editing, an outright attack upon the club and delivered with the approval of the ARCI leadership. For the record, I headed-up the development of each project and later edited the text. While these were team efforts participants felt the articles should appear under my name.

In September 1999, when the first installment was published in the QRP Quarterly, SLQS decided not to dignify either ARCI or the author with a response. The incident was allowed to pass unchallenged. The quality of the content had already spoken for itself.

SLQS was not aware of the extent of complaints by ARCI members and a former director until many months after the fact. Several were pursued vigorously though not successfully. ARCI was led by W4QO at that time. Jim Stafford along with the ARCI officer and director group adopted a policy of ignoring or stone-walling complaints.

Being the recipient of the surprise apology conveyed by KK5NA, I advised him that it would be brought to our club's attention at a monthly meeting on April 17. SLQS members attending unanimously re-confirmed that a private apology offered for such a unique public disservice was not acceptable. Therefore a public apology issued by ARCI in the QRP Quarterly and on QRP-L, with semantics acceptable to SLQS, was expected to bring this matter to a conclusion.

The SLQS response to ARCI through KK5NA was e-mailed on April 19. No acknowledgement or reply has been received to date which prompts this posting to QRP-L.

The two-part article in question is "The St. Louis Vertical, Radials and Express: Facts and Fallacies" by Ade Weiss, W0RSP.

SLQS believes the Weiss article lacks technical merit and repeatedly quotes the source material out-of-context to intentionally mislead the reader. Speaking as an author it is my opinion that the text is disorganized, verbose and does nothing to educate the reader or advance QRP.

If you haven't seen the two-part article please make an effort to read it. If you already have, consider reading it again in the September 1999 and January 2000 issues of QQ. That will put my opinions and SLQS comments in perspective while highlighting the role undertaken by ARCI.

As a former ARCI member and a contributor to the QRP Quarterly over the years, I had not paid dues since 1998. Since no membership relationship

existed that made it even easier to pass the Weiss material for publication without editorial scrutiny.

The St. Louis QRP Society was subsequently implicated in this matter by association which concerned no one in responsible positions at ARCI. The sheer arrogance conveyed with that decision is truly disappointing.

Six weeks after the first installment of the Weiss article was published, the editor of QQ contacted me by e-mail for the first and only time. NA6E reported receiving complaints. I was already aware of several having been copied by newsletter readers as well as users of the antennas.

Mary Cherry then offered SLQS an opportunity to print anything it wished in rebuttal, i.e. defend the designs. Sensing something wasn't quite right with the gesture our club chose to pass. The second installment of the Weiss article appeared in the next issue of QQ. Like the first it too came as a complete surprise.

The WORSP article provides some unintentional humor which helps establish an important point of reference. The author couldn't even get the names of the antennas right for starters. This is petty criticism but points a finger squarely at the reliability of his research and investigative techniques. Later attempts at clarification and related explanations are clumsy at best.

It is clear WORSP has never understood why these SLQS projects were undertaken in the first place. Each was developed as a simple, inexpensive, self-supporting and easily managed portable vertical antenna with a companion ground radial system.

The operative words are portable and easily managed. These features are obvious to any licensed amateur taking the time to read and comprehend the material. The WORSP technique of employing a dozen pages of theoretical standards to minimize the functionality and usability of the designs is simply not acceptable.

Starting in 1995, it took SLQS over two and one-half years of diligent workshop and field work to complete the three projects. Considerable effort by highly motivated amateurs went into a focused plan to improve dedicated portable antenna designs then available to the QRP community.

SLQS would not have approved adding its name to the designs knowing performance was sub-standard nor would they have been released outside of our club. Today, it's reasonable to question if Weiss actually built either antenna or either radial set? Did he test them as a complete unit as described in the text? Did he ever put them on the air? How did he go about comparing them to a reference antenna? Reviewing his text provides several answers.

Actual operating experience would have prompted the author to revisit his material to confirm its accuracy and reliability before releasing it to ARCI, and even earlier on QRP-L. Passing an antenna concept through design software while making assumptions about the data so the package will accept entries is expeditious. While that tends to create an instant antenna expert it in turn encourages pronouncements that have not been validated. Assuming you have read the article, what do you think?

From an author's perspective, the Weiss article also calls three editorial decisions by QRPP into question. I can assure you NorCal's approvals to publish were not taken lightly. None of the projects was accepted before being built and tested on the air by editor Doug Hendricks. That speaks well about the reliability of technical information released to the amateur community by KI6DS.

To WORSP, I'm sure you know by now a formal response was coming one day and for good reasons already expressed. In light of the recent ARCI overture this is certainly a good time to deliver it. You made remarkably bad decisions to write such biased and self-promotional material and then offer it to the QRP Quarterly for publication. Readers will remember when they see your name and call attached to future postings and articles, as well as some old ones.

To ARCI, it's one thing to write an article but another to publish. The decision to release the Weiss article in QQ was absolutely wrong as KK5NA has already confirmed. Your organization avoided taking responsibility until the current leadership has no choice. Now ARCI continues to embarrass itself further by issuing what should be a public apology in private.

Finally, the real loser in this exercise is the low power enthusiast investigating practical portable antenna options. That ham is going to read the Weiss material published in the QRP Quarterly and quite possibly exclude the three projects from consideration. It isn't right based on justifications presented. In addition to being editorially irresponsible it is inexcusable.

Trusting QRP-L subscribers will accept this report in the spirit offered. No need to respond - just remember.

Regards,

de Dave, NF0R nf0r@slacc.com

Date: Wed, 1 May 2002 17:06:02 -0400
From: K1VP <k1vp@grizzly.com>
To: david.gauding@bbs.galilei.com
Cc: qrp-1@Lehigh.EDU
Subject: [125869] Re: A.R.C.I. Activity Report (long)
Message-ID: <20020501170602.38621dfe.k1vp@grizzly.com>
Mime-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit

On Wed, 01 May 2002 16:06:18 -0500
David Gauding <david.gauding@bbs.galilei.com> wrote:

> Good afternoon,
>
>
>
> In September 1999, when the first installment was published in the QRP
> Quarterly,

Do I understand correctly that all this is being said now about an article
published a few years ago that most readers understood was not worth much when it
appeared?

Amazing. I believe I tried to read the article in question. I bought a St. Louis
style vertical from that dentist in Calif., who now sells even nicer portable
verticals, and found it useful. Half way through the article, as I remember it, I
stopped because it made no sense to me nor seemed to be talking about the antenna
I had been using. Seems like it really does not deserve all this anger and
emotion.

Ed Lawson
K1VP

Ed Lawson

K1VP

Date: Wed, 01 May 2002 17:40:59 -0400
From: W2AGN <w2agn@w2agn.net>
To: K1VP <k1vp@grizzly.com>,
Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [125870] Re: A.R.C.I. Activity Report (long)
Message-ID: <0205011740590X.04101@jsielke>
MIME-version: 1.0
Content-type: text/plain; charset=iso-8859-1
Content-transfer-encoding: 7BIT

On Wednesday 01 May 2002 17:06, K1VP wrote:

> On Wed, 01 May 2002 16:06:18 -0500

>

> David Gauding <david.gauding@bbs.galilei.com> wrote:

> > Good afternoon,

> >

> >

> >

> > In September 1999, when the first installment was published in the QRP

> > Quarterly,

>

> Do I understand correctly that all this is being said now about an article
> published a few years ago that most readers understood was not worth much
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>

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> Louis style vertical from that dentist in Calif., who now sells even nicer
> portable verticals, and found it useful. Half way through the article, as
> I remember it, I stopped because it made no sense to me nor seemed to be
> talking about the antenna I had been using. Seems like it really does not
> deserve all this anger and emotion.

>

> Ed Lawson

> K1VP

--

I use the W6MMA Center Loading Coil Version also. I note in Part II that Ade even recommends it. I fail to see why there is any need for "apologies." I just dug out and re-read the articles mentioned. Ade cited facts, indicating the original SLV and SLX antennas were non-resonant, basically depending on a tuner, and suffering from the expected drawbacks, ie, feedline loss, lack of efficiency, etc. So why apologize?

I really don't get it, unless there is some other agenda going on between the St. Louis Club and ARCI that is not publicized.

John L Sielke W2AGN
w2agn@w2agn.net
http://www.w2agn.net

Date: Wed, 1 May 2002 21:44:43 +0000
From: kb1dxc <kb1dxc@discovernet.net>
To: qrp-1@Lehigh.EDU
Subject: [125871] Re: Postal rates...?
Message-ID: <f05100300b8f611fcd0fb@[216.221.137.248]>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii" ; format="flowed"

This web site is a good one to bookmark, it is the postal rates, complete.

[http://new.usps.com/cgi-bin/uspsbv/scripts/category.jsp?
C=-8288&B=Mail_or_Ship&A=B&U=X&U1=B&U2=H](http://new.usps.com/cgi-bin/uspsbv/scripts/category.jsp?C=-8288&B=Mail_or_Ship&A=B&U=X&U1=B&U2=H)

Mike,
KB1DXC

>Hello, gang...! - Here I am preparing QSL-SASEs
>as I worketh some DX last weekend... as everybody
>or nobody knows, I am collecting stamps also. So
>I have some unused U.S. stamps also, and would
>put them into the S(tamped) E(nvelope), that one
>where is my name. Also
>I add a greenback for other costs... Now
>question is: how much is the fare from U.S.A
>to Finland nowadays...?
>73 and 72 de Erkki OH1UP

--
KB1DXC, Stamford, Ct.

Visit our club web site at:

<http://www.qsl.net/w1ee/ctsara.htm>

Our repeater is on 146.655, negative offset of 600 and a tone of 100

Date: Wed, 01 May 2002 18:06:53 -0400
From: Paul Valko <w8kc@comcast.net>
To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [125872] YIKES!!! Re: A.R.C.I. Activity Report (long)
Message-ID: <007d01c1f15c\$80ccb870\$6501a8c0@p4main>
MIME-version: 1.0
Content-type: text/plain; charset=iso-8859-1
Content-transfer-encoding: 7BIT

----- Original Message -----

From: "David Gauding" <david.gauding@bbs.galilei.com>
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>

> Good afternoon,
<snip>

Looking into the ol' W8KC Crystal Ball... I see... a giant flame war and many off topic posts in our future.

I'm getting on the air... 14.060... listen for me...

73! =paul= W8KC
Collector of Ten*Tecs and Other Fine Plastics.
Visit the Virtual Ten*Tec Museum at <http://mywebpages.comcast.net/w8kc>

Date: Wed, 01 May 2002 18:19:11 -0400
From: n4djs@netscape.net (David Ritchie)
To: qrp-1@lehigh.edu
Subject: [125873] Any list members in Richmond VA area?
Message-ID: <25956867.2A9BD AFC.0001323B@netscape.net>
Content-Type: text/plain; charset=iso-8859-1
Content-Transfer-Encoding: 8bit

Any list members in the Richmond VA area? I am moving to the area (still an NOGAQRP member though!) and was wondering if there is any local QRP'ers... Please respond via email...

72, Dave N4DJS

Your favorite stores, helpful shopping tools and great gift ideas. Experience the

convenience of buying online with Shop@Netscape! <http://shopnow.netscape.com/>

Get your own FREE, personal Netscape Mail account today at <http://webmail.netscape.com/>

End of QRP-L Digest 2542
